

REMARKS/ARGUMENTS

The present application has been reviewed in light of the Final Office Action mailed May 25, 2005. Claims 1-78 are currently pending, claims 1 and 46 having been amended, and claims 25-45 and 64-77 having been previously withdrawn. Reconsideration of the present application, as amended, is respectfully requested.

Applicants reserve the right to present previously withdrawn claims 25-45 and 64-77 in a divisional application.

Claims 1-16, 19-24, 46-56 and 61-63 were rejected under 35 U.S.C. §103(a) as being unpatentable over Storm (U.S. Patent 4,140,130) in view of Edwards (U.S. Patent 5,964,755). Applicants submit that claims 1 and 46, as amended herein, are allowable over Storm '130 in view of Edwards '755 because Storm '130, taken alone or in combination with Edwards '755, does not teach and/or suggest either of amended independent claims 1 and 46.

Independent claim 1 presently recites a cooling system for use with a microwave antenna, including, *inter alia*, a cooling jacket adapted to at least partially surround a microwave antenna, wherein the cooling jacket is further adapted to retain a cooling fluid therein such that at least a portion of the microwave antenna is in fluid contact with the cooling fluid and wherein the microwave antenna comprises a distal tip configured to be advanced *percutaneously* through tissue.

Independent claim 46 presently recites a cooling sheath system for use with a microwave antenna, including, *inter alia*, a first tubular member defining an antenna lumen therethrough; a second tubular member positioned about a length of the first tubular member; and a fluid channel

defined between the first tubular member and the second tubular member, wherein the fluid channel is adapted to retain a cooling fluid therein and envelope at least a portion of the antenna lumen and wherein the microwave antenna comprises a distal tip configured to be advanced *percutaneously* through tissue.

According to the present disclosure, and with reference to FIG. 15, in use, the microwave antenna may be advanced *percutaneously* or laparoscopically through the skin 382 of a patient to position antenna radiating portion 380 near or adjacent to tumor 384. (see: page, 3, paragraph 12 and page 19, paragraph 91). In other words, the distal tip of the microwave antenna is configured to pierce or penetrate tissue which contains no opening whatsoever or to generate the opening in the tissue when no opening is present.

Storm '130 discloses electrodes structures for radio frequency localized heating of tumor bearing tissue which are configured and adapted for placement on the surface of the tissue of the patient. In particular, non-conductive or dielectric straps not only secures the electrodes in fixed position *on the body*, but also may be sufficiently tightened to press the bottom walls 21 of the electrode means into intimate direct contact with the *skin surface* 15 and to cause uniform contact of the entire surface area of wall 21 with *the skin*. (see, col. 6, lines 34-40). Storm '130 fails to teach or suggest any form of a microwave antenna which may be configured for percutaneous tissue penetration, as called for in each of claims 1 and 46.

Edwards '755 discloses an ablation apparatus including, *inter alia*, an expandable member 12 that is introduced into a desired *body organ or lumen* through an introducer sleeve 14. (see col. 4, lines 1 and 2). Introducer sleeve 14 is introduced into the desired *organ or body lumen*, as shown in FIG. 1(a), with expandable member 12 in a non-deployed configuration.

(see, col. 4, lines 32-34). A hinge 18 provides for easy introduction of ablation apparatus 10 through the vagina, and into the cervix or uterus. (see, col. 4, lines 40-42). Accordingly, Edwards '755 also fails to teach or suggest any form of a microwave antenna which may be configured for percutaneous tissue penetration, as called for in each of claims 1 and 46.

Applicants respectfully submit that Storm '130, taken alone or in any proper combination with Edwards '755, fails to teach, disclose, or suggest, a microwave antenna including a distal tip configured to be advanced *percutaneously* through tissue, as called for in each of claims 1 and 46.

Applicants therefore respectfully submit that in view of the amendments made to claims 1 and 46, and in view of the arguments presented above, that claims 1 and 46 are allowable over Storm '130 in view of Edwards '755.

Since claims 2-16 and 19-24 depend, directly or indirectly, from claim 1 and contain all of the limitations of claim 1, for the reasons presented above regarding the patentability of claim 1, applicants respectfully submit that claims 2-16 and 19-24 are also patentable over Storm '130 in view of Edwards '755.

Since claims 47-56 and 61-63 depend, directly or indirectly, from claim 46 and contain all of the limitations of claim 46, for the reasons presented above regarding the patentability of claim 46, applicants respectfully submit that claims 47-56 and 61-63 are also patentable over Storm '130 in view of Edwards '755.

Claims 18, 57-60, and 78 were rejected under 35 U.S.C. §103(a) as being unpatentable over Storm '130 in view of Edwards '755 and further in view of Uthe (U.S. Patent 5,829,519).

Applicants respectfully submit that claims 18, 57-60, and 78 are allowable over Storm '130 in view of Edwards '755 and further in view of Uthe '519 since claim 18 depends from claim 1 and contains all of the limitations of claim 1, and for the reasons presented above regarding the patentability of claim 1.

Additionally, since claims 57-60 and 78 depend, directly or indirectly, from claim 46 and contain all of the limitations of claim 46, for the reasons presented above regarding the patentability of claim 46, it is respectfully submitted that claims 57-60 and 78 are also patentable over Storm '130 in view of Edwards '755 and further in view of Uthe '519.

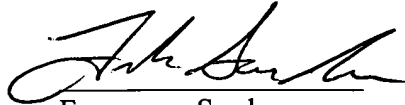
Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over Storm '130 in view of Edwards '755 and further in view of Edwards (U.S. Patent 5,281,217). Applicants submit that claim 17 is allowable over Storm '130 in view of Edwards '755 and further in view of Edwards '217 since claim 17 depends from claim 1 and contains all of the limitations of claim 1, and for the reasons presented above regarding the patentability of claim 1.

In view of the amendments made to the claims and in view of the remarks/arguments presented above, applicants respectfully submit that each of the rejections of the claims in the present Office Action has been overcome.

Should the Examiner believe that a telephone interview may facilitate prosecution of this application, the Examiner is respectfully requested to telephone Applicant's undersigned representative at the number indicated below.

In view of the foregoing amendments and remarks, reconsideration of the application and allowance of claims 1-24, 46-63 and 78 is earnestly solicited.

Respectfully submitted.

A handwritten signature in black ink, appearing to read 'Francesco Sardone', written over a horizontal line.

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